The Air Line Pilot

February, 1954

Aircraft Lighting ---Page 2

Veteran's Longevity ---Page 6

Anti-Collision Lights

More And Faster Planes Make Mid-Air Collision Odds Greater.
But Improved Lighting Would Help Whittle Those Odds Down

Status Report: Aircraft Exteri

By Capt. R. A. Stone
Chairman ALPA Exterior Lighting Committee

The widespread growth of air transportation in recent years unfortunately has increased the mathematical probability of mid-air collision; more airplanes travelling at faster speeds simply means that pilots have less time to see other traffic and avoid collisions. At night the problem becomes more acute because the navigation lights presently installed on airplanes are not adequate. The aviation industry, recognizing that it was confronted with a serious problem, directed efforts towards improving aircraft lighting and some success was achieved. Recently the Civil Air Regulations were amended in an effort to take advantage of the available improvements, but there remained a question of whether or not the amendments accomplished all that was desired. It therefore seemed advisable to convene a meeting of industry representatives to review the status of the Regulations and such an ALPA-sponsored meeting was held on November 12, 1953 at Chicago.

The first item on the agenda of the meeting was a review of the history of navigation lights. Such lights originally were displayed by sailing ships, later by steamships, and finally by airplanes. During the early 1940's the airplane lighting system was modified to incorporate a flasher unit and white lights were placed on the top and bottom of the fuselage as well as changing the tail light assembly from a steady white light to alternating red and white flashes. These modifications were an improvement over the "nautical" lighting system and served fairly well until the late 1940's at which time new airplanes brought increased airspeeds to the airways. As more and more of these higher speed airplanes appeared, the need for improved lighting became apparent to the industry and work began.

Purposes of Lights

As the first step in improving aircraft lighting it was necessary to reach agreement on the actual purpose of such lights; after much study it was finally agreed that the lights must serve three separate functions and serve them in a very definite order of preference.

First, and most important, lights must make the airplane conspicuous. The prime function of any lighting system is to make pilots aware that another aircraft is present. Most desirably this conspicuity should be accomplished in a manner that affords "spherical coverage". In other words, the aircraft should be highly conspicuous by its lights from any and all angles of approach.

The second function of the lights is to define the course and attitude of the aircraft. Once the first function has been accomplished and the presence of the aircraft is made known, then the pilot must be able to determine what the aircraft is doing in order to take proper evasive action and avoid collision.

The third and last function of a lighting system is to identify the aircraft. In this respect lights might possibly be used to differentiate between civilian and military airplanes, or it might be possible to identify the speed bracket of the airplane by different lights, but under no circumstances should the accomplishment of identification ever detract from the much more important functions of first making the aircraft conspicuous, and then defining its course and attitude. It matters little "whose" aircraft is in view, but it is imperative that other pilots see the aircraft and be able to determine what it is doing so that they may avoid collision.

Two Systems Needed

It is possible that a single lighting system could be devised which would simultaneously perform two, or maybe all three functions (at least one manufacturer is directing his efforts in this vein), however, after evaluating several experimental lights during past flights tests, it appears that two separate lighting systems are needed in order to adequately meet the first two requirements of aircraft lighting. The first system would be used to make the airplane conspicuous and to approach "spherical coverage"; the second system would define course and attitude.

The best system available thus far to meet the first requirement is the

Vol. 23 No. 2

The Air Line Pilot

February, 1954

Entered as Second Class Matter at the Post Office at Chicago, Ill. Copyright; 1953, by Air Line Pilot's Association, International.

Clarence N. Sayen
President
Jerome E. Wood
First Vice-President
Kay McMurray
Executive Vice-President
F. A. Spencer
Secretary
Roger Don Rae
Treasurer

REGIONAL VICE PRESIDENTS
W. M. Masland ..... Region I
J. P. Talton ..... Region II
M. E. Swanson ..... Region III
L. R. Williams ..... Region IV
C. A. Peternell ..... Region V

Larry Cates
Legislative Representative

Published Monthly by The Air Line Pilots Association, International, Affiliated with A. F. of L. Publication offices: 55th Street and Cicero Avenue, Chicago 38, Illinois.

Advertising appearing in this magazine cannot be construed as being an endorsement by The Air Line Pilots Association or the Air Line Pilots.

Annual Subscription, $2.50

Ed Modes, Editor

high intensity, rotating, red, anti-collision light. These high intensity lights produce substantially more candlepower than the presently installed

ri ighting . . . . .

"nautical" lights and thus are visible at a much greater distance which affords the pilot an earlier warning of the presence of another aircraft. The rotating feature of such lights is an advancement towards "spherical coverage" since the light sweeps 360 degrees (like an airways beacon) and its beam has a vertical spread so that it is visible above and below the horizontal. The rotation also causes the light to apparently flash which is a very desirable characteristic against a background of city lights or against a star-filled sky. The red color of these lights not only conforms with the well established psychological association of "red means danger", but also meets physiological considerations of the human eye. A high intensity light of any color other than red would be very distracting to the pilot flying the lighted airplane because of reflections from smoke, haze, or water particles in the air. However, the peripheral vision of the human eye is least responsive to red light, thus red reflections are not distracting.

Anti-Collision Lights Tried

The Civil Air Regulations (4b.637) have been amended to technically describe such lights and it is now permissible to install them. The Civil Aeronautics Board has recently proposed in Draft Release 53-25 to further amend the Regulations and make the installation of such lights mandatory on all large airplanes. (Large airplanes are those with a certificated gross weight of at least 12,500 pounds.) At the Chicago meeting samples of these anti-collision lights were demonstrated in the meetings and in flight and the industry representatives were well-satisfied that such lights materially increased the conspicuity of the airplane. Although these lights may not represent the ultimate in aircraft lighting, they definitely are a marked improvement and are the best lights available in the foreseeable future. They should be required on all large airplanes and should serve their purpose for the life of the airplane.

The jet airplanes of the future will present a more difficult problem because their higher speeds will demand longer range conspicuity, but while the present piston airplanes continue to fly, they can be very adequately made conspicuous by the installation of a high intensity, rotating, red, anti-collision light.

ANTI-COLLISION LIGHT: Rotating Light of Type Meeting First Function of Aircraft Light-Conspicuity. Also Needed: One Defining Course, Attitude.

Although the anti-collision light makes the airplane quite conspicuous and serves the first function of aircraft lights, it does not serve the second function—it does not define the airplane's course and attitude. In flight the rotating anti-collision light appears only as a bright flashing red light that does just what it was designed to do—it attracts the pilot's attention.

Earlier experiments by the industry had been aimed at improving the "nautical" lights, and although the results of these tests eventually led to the development of the rotating anti-collision light, it was noted that the "nautical" lights could be made more effective by increasing their flashing rate above the present 40 cycles per minute. Rates as high as 120 per minute were tested and rejected because it was observed that at 75 cycles the "nautical" lights made the airplane most conspicuous. (Of course the anti-

collision light is far more conspicuous than any system of "nautical" lights due to its vastly increased candlepower, and also it provides 360 degree coverage which the "nautical" lights cannot accomplish.) Likewise it was observed that when the "nautical" lights were flashing at 75 cycles they defined the airplane's course and attitude more precisely, but there was some question of whether it was better to have the red and green wing tip lights alternate with the white fuselage lights, or, perhaps, have all these lights flash simultaneously.

Alternate Flashing Best

To resolve this question flight tests were conducted at the CAA Technical Development and Evaluation Center at Indianapolis in July of 1949; similar tests were repeated there in August of 1950 and again such tests were conducted in September of 1950 at Chicago. In all three instances it was the consensus of opinion that the wing tip lights should alternate with the fuselage lights. In contrast, the current Civil Air Regulations (4b.632) specify that these lights should flash simultaneously. It is difficult to understand why such a Regulation was promulgated since it is contrary to opinion developed by three separate flight tests and requires complex electrical circuits, while the preferred system of having the wing tip lights and fuselage lights alternate can be accomplished by merely changing the gear ratio of the present flasher units.

In recent months a few air lines have voluntarily begun installation of the rotating anti-collision lights. After observing these lights in flight, several pilots suggested that now, since good conspicuity had been provided by the anti-collision light, it would be better to define course and attitude with steady wing tip and tail lights. To evaluate this suggestion, and to once again compare simultaneous wing tip and fuselage lights versus alternate flashing, flight tests were arranged as part of the November 1953 meeting at Chicago.

Industry, CAR's Differ

It was planned to have the two test airplanes, both equipped with rotating anti-collision lights, fly beside each other with one displaying wing tip lights that flashed simultaneously with its fuselage lights and the other displaying the alternating sequence. Unfortunately a malfunction of equipment caused the "simultaneous" airplane's lights not to flash and therefore it was impossible to make a comparison against the "alternating" airplane's lights. The status of the "alternating versus simultaneous" question therefore remains that on three previous occasions industry observers of flight tests favored the alternating sequence but, in contrast, the Civil Air Regulations now specify the simultaneous sequence.

Despite the inability to produce flashing lights on both airplanes, it was possible to make a comparison of steady lights versus flashing lights. These tests consisted of carrying the industry representatives in a third airplane to observe the two test airplanes from many angles, both over the city lights of Chicago and also over dark rural areas. The results of this comparison were quite conclusive. By a vote of 32 to 7 the observers favored the use of steady "nautical" lights to best define the airplane's course and attitude. It was felt that the first function of aircraft lighting was adequately served by the rotating anti-collision light—the airplane was conspicuous; the second function of lights was best served by displaying steady lights—red on the left wing tip, green on the right, and white in the tail.

Light Failure a Question

Some members of the minority group expressed themselves as actually agreeing with the majority but they felt compelled to vote in favor of flashing lights as a safety measure to insure flashing lights on the airplane in the event the anti-collision light failed and the pilot was unaware of the failure. This is a well-taken point. If an airplane is displaying steady "nautical" lights, and relying upon its anti-collision light to make it conspicuous, the airplane will not be very conspicuous should the anti-collision light fail. The lighting manufacturer assured the group this was not a serious problem as they could easily provide a relay in the circuit of the anti-collision light which, in the event of a failure of the anti-collision light, would either signal this information to the pilot or automatically cause the "nautical" lights to begin flashing.

It appears that it is now possible to draw some conclusions. There seems to be no question that the first function of aircraft lighting can best be accomplished by installing a high intensity, rotating, red, anti-collision light as described in CAR 4b.637 to make the airplane conspicuous. Draft Release 53-25, if promulgated into the Regulations, will require such a light on all large airplanes. The second function of aircraft lighting can best be accomplished by displaying steady lights on the wing tips and tail to define course and attitude. Such a display is permissive under CAR 4b.637 as currently written.

The suggestion to install a relay in the anti-collision light circuit to inform the pilot of a failure of the anti-collision light is meritorious and should be reflected as an amendment to CAR 4b.637 as soon as possible. It must be recognized that anti-collision lights may fail just as any other light may fail; when the anti-collision light does fail, the pilot must be informed of the failure so that he can turn on the flasher for the "nautical" lights and regain some degree of conspicuity. Maintenance of the anti-collision light presents a unique problem as the light is usually mounted at the top of the vertical fin which is not easily accessible. There will be occasions when it will be necessary to fly the airplane with the anti-collision light inoperative to a repair station equipped to reach the top of the fin and, under these conditions, it should be mandatory to have the "nautical" lights flashing, rather than steady, in order to provide better conspicuity. This means that a flasher unit must be installed in the airplane despite the addition of the anti-collision light and the flash sequence of the "nautical" lights should produce as good conspicuity as possible.

Must Clarify Regulations

As mentioned previously, the results of three separate evaluations of flash sequences favored alternating the wing tip lights with the fuselage lights but CAR 4b.632 specifies that these lights should flash simultaneously. At least one large airline has progressed quite far in modifying its fleet to comply with CAR 4b.632 while another large airline has postponed its modification program solely because it prefers to install the alternating sequence which is presently "illegal." Most other airlines have adopted a "wait and see" attitude pending further clarification of the Regulations.

A satisfactory compromise to this dilemma would be for the Civil Aeronautics Board to amend CAR 4b.632 in a manner which would permit the installation of either the alternating sequence or the simultaneous sequence. Such an amendment would not force a re-modification upon the airline which has already installed the simultaneous sequence and it would permit the other airlines to install the alternating sequence. It must be remembered that most of the time conspicuity will be achieved by the rotating anti-collision light and the "nautical" lights

will be displayed only as steady lights to define course and attitude. For the few times the airplane flies with the anti-collision light inoperative and relies upon its "nautical" lights for some degree of conspicuity, the Regulations could justifiably permit the "nautical" lights to be flashed 75 cycles per minute either simultaneously or alternating. If CAR 4b.632 were amended to permit this choice, it is very likely that most airlines would choose to install the alternating sequence (which has proven better in three evaluations) because they would merely have to change two small gears in their present flasher units while if they elected to install the simultaneous sequence, they would be compelled to extensively rework the wiring system of the "nautical" lights and also add either rectifiers or advancing relays to the circuits.

Could Be Done Now

Aircraft lighting could be rapidly modernized now if each segment of the aviation industry would do its respective part in the program. The Civil Aeronautics Board should adopt Draft Release 53-25 into the Regulations and thereby make mandatory the installation of the high intensity, rotating, red, anti-collision light on all large airplanes. The "engineering" to install such a light has already been accomplished for many types of airplanes. And the airframe manufacturers should complete the engineering for the remaining airplanes.

Some individuals question if such a light is practical on a Lockheed Constellation because the outboard vertical fins might obstruct the view of an anti-collision light mounted on the center fin. Admittedly some obstruction would occur, but the obstructed areas are surprisingly small. There is no obstruction above, ahead, or behind. The obstruction abeam is much smaller than might be expected. To illustrate this point it is suggested that you walk around a Constellation and note that the top of the center fin is observable from almost any position despite the presence of the outboard fins.

Some individuals likewise question whether the anti-collision light could be mounted on the vertical fin of a Martin 404 because of the ducting for thermal deicing. This problem has been met and solved on the Convair 240, Convair 340, and Douglas DC-6, therefore there must be a solution for the Martin. Once the Regulations have been amended and the engineering accomplished, it then is the responsibility of the airlines to rapidly install anti-collision lights on their fleets.

Civil Air Regulation 4b.637 should be amended to provide some means of informing the pilot of a failure of the anti-collision light and CAR 4b.632 should be amended to permit the "nautical" lights to flash 75 times per minute either in a simultaneous sequence or an alternating sequence. Here again the engineering and installation of these modifications should be rapidly accomplished by the airlines because the probability of mid-air collision is continuing to increase. The Lockheed Super-Constellation and the Douglas DC-7 are just now bringing a further increase of speed onto the airways which means still less time for pilots to see airplanes and determine what they are doing.

Helicopters a Problem

It will be noted that the third function of aircraft lights has not been discussed very much. Identification of the aircraft is subordinate to (1) conspicuity and (2) definition of course and attitude; what progress has been made in lighting has rightfully been aimed at improving the first two functions. The most pressing problem of identification today is that of the helicopters which, because of their peculiar flight characteristics, must be identified as definitely not being an airplane. All that can be reported at this time is that the helicopter manufacturers and operators recognize this problem and are continuing research to develop a lighting system which will be distinctive enough to properly identify helicopters.

Small Planes

The problem of improved lighting for small airplanes is complicated by the cost factor and also the limited market. Because of these factors the lighting manufacturers have developed low cost flashers which have very wide frequency tolerance. A flasher unit which would produce the desired 75 cycles per minute with a tolerance of plus or minus 10 is out of the price range of most operators of small airplanes. One manufacturer reports that, to keep his flasher within the acceptable price range, he can only produce a unit which will operate somewhere between 60 and 120 cycles per minute. Many pilots of small airplanes feel that it is the responsibility of the pilots of the larger, faster airplanes to avoid the small airplanes, and while this point could be argued at length, the fact remains uncontradicted that the small airplane must be lighted well enough so that the pilot of the large airplane can see it in order to avoid collision. Since flashing lights are more conspicuous than steady lights everything possible must be done to encourage the operators of small airplanes to install flashers. By accepting the wide tolerance on cycle speed a low cost flasher unit has been made available; the Regulations should be amended to require mandatory installation of flashers on all small airplanes.

In the future there undoubtedly will be better methods of lighting airplanes but the industry has now reached the point where the present lights can be improved substantially and it is high time that we take advantage of the available improvements.

Acknowledgment

Although the meetings and flight tests of November, 1953 were conceived and conducted by the Air Line Pilots Association, they would not have been possible at all without the very generous cooperation of several other organizations.

Airplanes were provided by American Airlines and United Air Lines for the flight tests, and in addition, United provided an auditorium for the meetings. Capital Airlines and Trans World Airlines also offered to provide airplanes should they be needed. The CAA Technical Development and Evaluation Center and Federal Enterprises Company provided equipment needed for demonstration purposes at the meetings.

The attendance of such a diversified group representing both military and civilian segments of the aviation industry, as well as the regulatory agencies, provided an excellent cross section of opinion to evaluate the aircraft lighting problem and make progress towards its ultimate solution.

The Air Line Pilots Association wishes to take this opportunity of thanking everyone who contributed to the success of these meetings and flight tests.

The Returning Vet and Longevity

Returning Pilot Veterans Have A Strong Basis For Claiming Longevity Pay To Include Time in Active Military Service

By F. Harold Bennett
Head ALPA Legal Dept

The returning pilot veteran has little or no difficulty with his company regarding the seniority position which his veteran rights entitle him to assume when he returns from active service; there is much confusion however, among veterans and companies alike, with respect to the proper longevity pay bracket to which the veteran should be assigned. It is the purpose of this article to explore this problem from the standpoint of a returning pilot veteran and suggest a proper course to be pursued by any returning pilot veteran who might be affected.

There is a difference between seniority and longevity. Whereas longevity, or length of service, seldom if ever exceeds seniority, it may very well be less, due to furloughs, suspensions, etc. Since increments in base pay, under the pilots' employment agreements, accrue as the pilot gains length of service, these increments are inextricably tied to the pilot's longevity. The Service Act specifically provides that the veteran shall retain and continue to accrue seniority, however, there is no such specific provision regarding longevity, and the confusion respecting the laws requirements, so far as the latter is concerned, arises from the recognition by the courts of two characters of longevity pay increases: one given solely because of the passage of time, and the other for increased efficiency due to experience gained doing a particular job. One of the leading cases that draws this distinction is *Nevins vs. Curtiss-Wright Corp.*, 172 Fed. (2nd), 535, where this court states:

"Where agreement provides for periodic pay increases for qualified employees, based on average increase in experience for employees in particular job and granted as substitute for merit increases and where established practice of employer is not to include time spent by employees on furlough or leave of absence toward qualification for such increases, pay increases are granted on basis of increased experience on particular job, and not on basis of increased seniority. Although veteran may not be deprived of seniority or rights dependent thereon because of his absence in service, he is not entitled to such periodic increases merely because of time spent in military service, even though he might have received increases if he had remained in his civilian employment."

The facts surrounding the return of the veteran pilot can be easily distinguished from those in the case of the employee which permitted this court ruling, and we are of the opinion that this line of court decisions is not controlling in the case of the returning pilot veteran.

Increased Experience

First, in almost every case the pilot's active duty is in the Air Force and his experience as a pilot continues to enhance during his tour of active duty, to the benefit of the company upon his return. Secondly, the veteran pilot's seniority alone determines his right to pay increases (advancement from copilot to Captain or to larger and faster equipment) with the one exception, base pay, and the pilot must demonstrate his ability and fitness at each successive advancement. If he fails to do this, he is usually released. It follows, that if the company utilizes the pilot veteran's increased experience, and gives him the added responsibilities, in line with his seniority, as he is able to demonstrate his ability to accept them, but fails to compensate the pilot veteran equally with the like employee who remained out of military service, the company discriminates against the veteran. Such a situation is abhorrent to the letter and spirit of the Universal Military Training and Service Act, from which statute veteran rights are derived, and will not be countenanced.

In July, 1952, the United States Department of Labor, Bureau of Veterans' Reemployment Rights issued a revised "Handbook of Questions and Answers." While this handbook does not detail the whys and wherefores of the conclusions arrived at by the Department, certain questions and answers contained in this booklet illustrate that the thinking of the Department is in line with the contentions of the Association. The questions and answers to which we refer are:

Chapter VI: Question 10 and Answer:

"*Q.* May an ex-serviceman legally claim promotion at the time of reinstatement to a position superior to that he left to enter military service?

"*A.* Yes; under certain conditions. If he can show that he would have been promoted to the superior position had he remained on the job instead of entering military service, he may be entitled to reinstatement in the superior position. He cannot claim super-seniority but if promotions are made solely on the basis of seniority and the seniority he earned prior to military service plus seniority credit that must be given him for his military service would entitle him to the superior position, he should be reinstated in the position. Likewise, where promotions are made on the basis of seniority and other factors, such as experience and proficiency, he could claim reinstatement in the superior position if he has the requisite seniority and can show that he has the ability to perform the duties of the position. The burden of proof as to ability rests with the ex-serviceman."

Chapter VIII: Questions 15, 16, and 17 and Answers:

"*Q.* Where promotions are made on the basis of seniority, ability and fitness, and seniority governs as between employees when the other factors are equal, to what position would an ex-serviceman be entitled upon reinstatement?

"*A.* If it is shown that he possesses the requisite ability and fitness, he should receive the top position to which a junior employee was promoted during his absence. His seniority in the

higher position would be computed as if he had been promoted just ahead of the junior employee. The burden of showing he has the necessary ability is on the ex-serviceman. The burden of showing he is not physically fit is on the employer."

"*Q.* Where promotions are made on the basis of ability, fitness and seniority, ability governs as between employees when the other factors are equal, and the employer, under the contract, retains the right to determine ability, to what position would an ex-serviceman be entitled upon reinstatement?

"*A.* He would be subject to the provisions of the contract with respect to promotions unless it was shown that the employer, in exercising his right to determine ability, discriminated against ex-servicemen by failing to promote them when their ability is equal to that of other employees promoted or, in practice, had promoted other employees on the basis of seniority alone. In case of doubt as to the ex-serviceman's present ability because of his absence in military service, he should be given a reasonable opportunity to prove he can do the job."

"*Q.* Where promotions are made on the basis of seniority, ability and experience, seniority governs when the other factors are equal, and it is the practice of the employer to require a specified amount of experience in a lower job to qualify for promotion to the next higher job, to what position would the ex-serviceman be reinstated?

"*A.* If he can show that he possesses the required ability to perform the duties of an advanced position without experience in a lower position, the fact that his military service prevented him from obtaining the experience should not bar him from the promotion upon reinstatement. The burden of showing that he has the necessary ability is on the ex-serviceman and could be determined by a test of employment in the advance position."

Chapter VIII: Question 82 and Answer:

"*Q.* Where pay increases are conditioned upon the gaining of experience on the job, would an ex-serviceman be entitled to reinstatement with attendant increases, where he has performed related duties during his military service?

"*A.* Yes. The fact that experience was acquired in military service rather than in the service of the employer is not relevant."

If you are a returned pilot veteran and your company has not accorded you longevity pay to include time spent in active military service, there is a sound basis upon which you may claim this additional longevity pay, and we suggest that you contact the Department of Labor, Bureau of Veterans' Reemployment Rights, or write to ALPA Legal Department.

Thumbnail Sketch of the New Chairman of the CAB

Chan Gurney

Has Been a Member of the Board Since March, 1951

Chan Gurney, new CAB Chairman, was born at Yankton, South Dakota, May 21, 1896, son of Deloss Butler and Henrietta Belle Gurney. He assumed duties as member of CAB March 12, 1951, to fill unexpired term of Harold Jones, former member, to end December 31, 1952. He received appointment as a Republican Member from President Eisenhower for term ending December 31, 1958, and on January 6, 1954, was designated Chairman of the Board for the year 1954.

After completing his education at the high school in Yankton, Chan Gurney in 1914 joined his father in the Gurney Seed & Nursery Company at Yankton, a business which his grandfather had established in 1870, and which in 1906 became House of Gurney, Inc. During the First World War he interrupted his business career to serve in the U. S. Army as a sergeant in Company A, 34th Engineers, with the AEF. Following the war he returned to the family business as secretary and treasurer. In addition he built and operated for the company radio station WNAX (1927-32), and during 1932-36 was president of the Chan Gurney Oil Company of Sioux Falls, South Dakota.

Chan Gurney was a member of the United States Senate from South Dakota for 12 years, from January 3, 1939, to January 3, 1951; during his first eight years in the Senate he served on the following committees: Irrigation and Reclamation, Public Lands and Surveys, Interstate Commerce, Printing, Appropriations, Military Affairs and Foreign Relations.

Under the Reorganization Act of 1946 the Military and Naval Affairs Committees were combined, to form the Armed Services Committee; Chan Gurney served as its first chairman, sponsoring and vigorously supporting the following basic Acts, necessary for the National Defense: National Security Act of 1947 (Unification of Armed Forces); Selective Service Act of 1948; Uniform Code of Military Justice; Armed Services Procurement Act of 1947; Navy Reorganization Act; National Industrial Reserve Act of 1948; WAC-WAVE Bill (Women's Armed Services Integration Act of 1948); Army and Navy Nurses Act of 1947; Promotion Bill (Officer Personnel Act of 1947).

Mr. Gurney is a member of the Sons of the American Revolution, American Legion, Veterans of Foreign Wars, the Masonic order and BPOE. In religion he is a Protestant.

He was married in Kansas City, Kansas, July 4, 1917, to Evelyn, daughter of William Bordeno, and has three children: Ida Elaine, who married Morgan T. Smith; John Bordeno; and Deloss Braddock (all living).

Captain Gory

Russia Being What It Is, We Can't Vouch For The Facts In This Article, — This Is Strictly What Reds Say It's Like To Be An Iron Curtain Pilot.

By
Charles Adams

SAY THE REDS: This is One of USSR Civil Airways Most Experienced Pilots, Capt. Grigory Ivanov. He's shown at the controls of Twin-Engined IL-12.

Ever wonder what it would be like to be a Russian air line pilot? The Reds would like you to believe an air line pilot never had it so good.

The Soviet Union has offered a candid but propaganda-tinged glimpse into the life of a Russian airline pilot —their version of the plush and good life.

Central figure in a recent Russian article on the USSR Civil Airways is Captain Grigory Ivanov, a veteran of 16 years and 2,000,000 kilometers of flying. Ivanov pilots a twin-engined IL-12 on the 4,350-mile, transcontinental Moscow-Khabarovsk run and on the shorter route from Moscow to the Black Sea resort of Adler.

The IL-12 is a 27-32 passenger plane first placed in service in 1948. It has an empty weight of 19,850 lbs., loaded weight of 38,000 lbs., payload of 6,610 lbs., cruising speed of over 200 mph., maximum speed of about 226 mph., and range of 777 miles with 32 passengers. In its deluxe, 16-passenger version, the IL-12 has a range of 1,865 miles.

At present, Ivanov's chances of piloting four-engined equipment are slim. Russia brought out a four-engined transport, the IL-18, about the same time as the IL-12 was put in operation. But no four-engined equipment has been observed in regularly-scheduled service on Russian airlines. The twin-engined IL-12 is even used on Russia's longest route—the 4,750-mile link from Moscow to Vladivostok.

Ivanov's crew consists of a female copilot, Alexandra Krivonogova; an "air mechanic," Konstantin Popov; and a radio operator, Nikolai Zhuravlyov. The IL-12 also carries a stewardess.

Judging from the Russian article, the pilot, rather than the rule book, has final say on the load and reserve fuel to be carried on a particular flight. The author states that before taking off on the Khabarovsk run, Captain Ivanov "by cutting the petrol supply to a fine minimum was able to make more room on board for payload."

Russian airline pilots are noted for their disdain for running up their engines before takeoff and for anything but straight-in landing approaches. But there apparently is no lack of compulsory courses to maintain and improve the flight crew's skills. Each year, pilots, air mechanics and radio operators must pass examinations "in the full number of subjects necessary for renewal of their flying licenses."

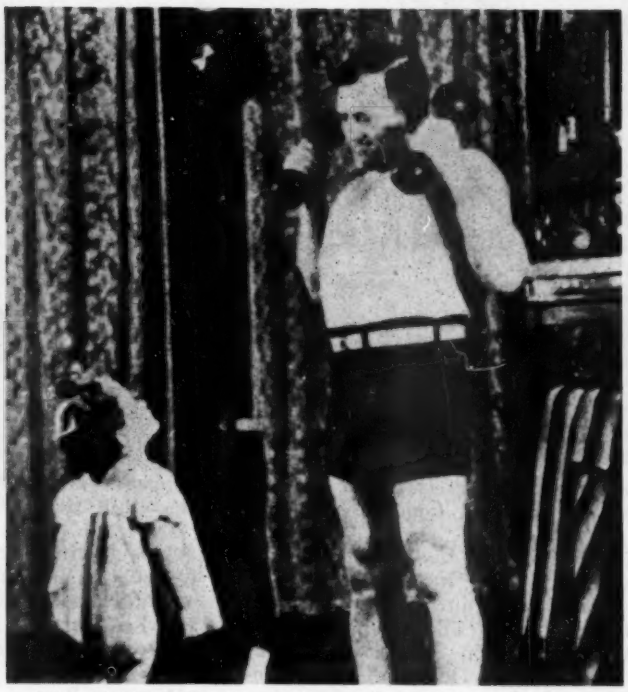
Proof that Captain Ivanov's standard of living is far above that of the average Russian is provided by a picture showing him at home looking at his television set. Best estimates are that the entire Soviet Union, with over 200,000,000 people, has a total of only 100,000 TV receivers. Ivanov's set has

(Continued on Page 10)

Their Air Line Pilots Have It Plush, Say Reds: Things Like No Accidents, Retirement . . . TV, They'd A

Gory Ivanov --- Air Line Pilot U.S.S.R.

SAY THE REDS: Their Pilots Keep Up Proficiency by Lectures Like This, Face Periodic Written Exams.



SAY THE REDS: Their Pilots Keep Trim with Exercises Like These Being Illustrated by Capt. Ivanov.

SAY THE REDS: Their Pilots While Away Layover Time Like This at Places Like the Black Sea Resort.

SAY THE REDS: Their Pilots Relax at Home Like This with Their Postage Stamp-Screen T.V. Sets.

. TV, They'd Also Like Us to Know We're 20 Years Behind Time. They Invented the Plane 70 Years Ago.

SAY THE REDS: This is a Stewardess. Impressive Uniforms of Passengers Mean Nothing. Generals? Guess Again—Just USSR Railroad Workers.

a postage-stamp-sized picture tube no larger than nine inches.

Ivanov, according to Russian propaganda claims, will be entitled to a half-pay pension at the end of 20 years' service. He is reportedly entitled to retirement at full salary after 30 years of airline flying.

Judging from Soviet newspapers, Ivanov's chances of retiring on full pay, barring sickness, are excellent. The Russian press has yet to print a report of an accident or a casualty on its civil airlines.

Not that Russian papers aren't aviation-minded. After all, they pointed out recently, it was none other than a Russian who invented the air plane. They didn't like all of the United States' to-do over the Golden Anniversary of the Wright Brothers' first flight at all.

The celebration, the Russian papers said, was an obvious attempt by "American propaganda to prove the priority of the Wright Brothers in the invention of the airplane."

Red Star, Soviet Army newspaper, quoted an article from the Soviet Air Force journal saying the Wrights were 20 years behind Russians in successfully using a heavier-than-air flying machine.

Red Star said the journal correctly reported:

"Careful study of our archive documents show that more than 20 years before the Wrights the Russian inventor R. F. Mozhaisky built an airplane in Russia."

In case you're wondering: there's no mention of an Air Line Pilots Association nor anything to indicate that Capt. Ivanov or his comrade pilots have any say so in the things Russ air bigwigs hand them. We can't even guarantee you whether Comrade Ivanov is still flying or mining as of now.

Letdown at Keflavik

From Australian Air Line Pilot

The air was clear at 18,000 feet with a full moon rising out of the East. Below, a stratus deck hid the sea from view and here and there a towering cumulus rose out of the grey mass and stood brightly in the moonlight. Ahead at Keflavik the weather was good and all the way by Greenland and Labrador the augeries were for a swift and easy flight to New York. The flight deck was quiet with routine work and men alone with their thoughts.

The first thing that happened was a routine weather report from Keflavik which gave an 800-foot ceiling with rain and almost simultaneously with that all too familiar coincidence came the amendment to the forecast received at London. With no apology it simply said ceiling 600 feet, visibility 5 miles, wind SE at 15 knots. The front had begun to move in. For a year or more the radio range at Keflavik has been listed as unreliable awaiting flight check and for as long as that and even more the ILS has been intermittently out of action. It was on that night. The book—the Ops manual—gave landing limits of 400 feet and a mile on runway 120 when using the range, but the range was unreliable and not to be trusted. For runway 210 which was across the wind it gave 300 feet and a mile when using the ILS but that wasn't working either. The GCA was OK but the book didn't mention it. Like a dirty word which everyone used it was not fit to print.

. . . The Aircraft Flew On

Maybe the aircraft should have turned round and headed back to Prestwick. The book wasn't very clear on this point. Perhaps it came under the heading of being a good airline pilot, this sticking your neck out, which if everything worked out all right no-one would mention, but if something happened would cause them to throw the book at you and talk about the human factor not being infallible. Anyway, the aircraft flew on.

With the coast of Iceland approaching it was possible to hear Kef tower landing aircraft on runway 12 with the aid of GCA, bringing them in low over the black sea with the rain beating on their silver wings. Most of them were military planes with no official qualms about GCA.

Some fifteen minutes out on the descent Kef tower called to say that the runway lights had gone out on 120 and so what did we want to do about it. They couldn't move the GCA in time for our arrival but we could use another runway if we wished. Maybe we should have gone back then but we didn't.

To the North and East of Keflavik there are mountains. In 1940 when I was serving in a flying boat squadron at Reykjavik one of our boats flew into one. I saw the pilot only the other day, they did a marvellous job on his face. The approaches to 210 meant a blind circuit to the South and West of these mountains, assuming one used the range as a beacon with the ADF and then a low groping pass at the field hoping that the runway lights would loom up sufficiently early for a last minute line up. The situation im-

proved somewhat when the tower called to say that they could give us a PPI approach with the GCA. By this they meant that they could sort of monitor us into a fairly reasonable position for landing on 21 but without much guarantee of accuracy. The book didn't mention PPI either, but we grabbed at the offer.

By this time we were over the field and as the ADF needles rotated we struck out to the West over the sea and began to let down to 2,000 feet on the West leg of the range with all its unreliability. At 2,000 feet we turned and headed back to the field and that was when the GCA picked us up and we forgot the range. They did a pretty good job, took us round on a right-hand circuit to keep us away from the mountains whilst we did the field approach and landing checks and all the time we came lower and there was nothing to see save the rain streaming off the cockpit windows and the red and green flashes of the navigation lights as they reflected off the white cloud. On a heading of 200 deg. and at 900 feet we saw lights below, directly below, nothing ahead and then they vanished again. Gear was down, checks complete except for a full flap and everyone waited whilst the altimeter passed 600 feet and GCA director gave us two miles to go. The runway came out of the cloud in a pretty good position at 450 feet and we could see the airport beacon sweeping the rain-filled skies with long white fingers. All this we saw as through opaque glass with the rain thick on the windows and the wipers flailing helplessly at the great onrush of water.

At 200 feet the ground vanished again under some low scud and then as suddenly came into view again but very close with the nose slanting steeply down at the rising runway with its twin lights detailing the landing path for us. Notams had said obstructions were located at the end of 030 to land at least 1,000 feet from the threshold of 210. Tower said 500 was OK, GCA didn't know anything about it and how do you measure 500 feet at night when the winds gusting you up and down and your only view is a fish's one with all the distortion of the water? We did our best though, bearing in mind the cross wind, the poor braking characteristics of the rain sodden runway and the black night and the touchdown was reasonable. Number two engine faded as the propeller went into reverse pitch and of course there's no room for a swing off the runway at Kef with its massive rocks hugging the edges, but it picked up all right when we took on a bit more reverse power so we were able to cut 1 and 4 engines as we crept up the narrow taxy tracks with their trimmed props hanging low over the rocks.

After a cup of coffee we took off again and arrived fifteen minutes early at New York so everyone was pleased.

You might say this was a typical working day in the life of an airline pilot, except that it happened at night. If the description seems a little too graphic it is only because the layman would find it graphic to say the least, if not downright terrifying. You might say that it all sounds much too dangerous but then a 70-ton aeroplane can be dangerous in the hands of the wrong man, very dangerous. The fact that it wasn't dangerous and wasn't terrifying to the only people who knew anything about it, the crew, is because over a period of years, they have taught themselves to do these things as a routine matter and it is only seldom, very seldom that anyone makes a mistake. When they do it always rather amazes me that people think it is so inexplicable but then few people understand the life of an airline pilot. That's probably why we are where we are and nobody should be very happy about that. Aerius.

AIR LINE PILOTS ASSOCIATION
MUTUAL AID ASSOCIATION

BALANCE SHEET
December 31, 1953

Assets

Current Assets		
Cash—LaGrange State Bank	$ 9,010.52	
Accounts Receivable (Assessments)	8,934.60	
		$17,945.12
Investments		
LaGrange Federal Savings & Loan	$10,000.00	
U. S. Bonds	64,023.75	
		$74,023.75
Fixed Assets		
Furniture & Fixtures	$	347.41
Accrued Interest on U. S. Bonds		83.75
TOTAL ASSETS		$92,400.03

Liabilities and Net Worth

Current Liabilities		
Employees' Tax Withheld	$ 145.90	
Accrued Social Security	21.84	
		$ 167.74
Net Worth		
Membership Investment	$91,825.00	
Reserve	407.29	
		$92,232.29
TOTAL LIABILITIES AND NET WORTH		$92,400.03

The Air Line Pilots Started It

Last year, the U. S. air transportation industry did more than a billion dollars worth of business — quite a contrast to the early days of the airlines, when their employees never knew for sure whether they could count on taking home a full wallet on payday. The frequent insolvency of many air carriers in those early years, coupled with the uncertainty of flying weather, kept many an airline man on edge to within hours of payoff time.

So common were the payday jitters that employees at home offices—where the checks were made out—kept a wary eye on the treasury department activities and the weather. When the checks had been written and placed in company mail sacks for forwarding to each station across the route, somebody would call the company radio operator.

Since personal messages and other business not connected with flying operations were banned from the air, radio operators used a simple code phrase that has since invaded other fields. Picking up his microphone, the broadcaster would utter the words, "The eagle flies today." In a matter of minutes, the good news would filter throughout the organization and many a mind would be put at rest.

To thousands of men now working in other industries "the eagle flies"—now used casually to designate payday almost anywhere — brings back pungent memories. Memories of the years when nobody knew for sure the payday and the paycheck would arrive together.

Life In These U. S.

On every flight we made out of Washington, D. C., I noticed that my fellow pilot always looked down intently on a certain valley in the Appalachians. "What's so interesting about that spot?" I asked him one day.

"See that stream? Well, when I was a kid I used to sit down there on a log, fishing. Every time an airplane flew over I would look up and wish I were flying. Now I look down and wish I were fishing!"

W. F. Bettwy (Vienna, Va.)
From July, 1953
READER'S DIGEST

The Lindbergh Story, A Pilot's Mind in Action

Every Pilot Will Recognize the Sub Realities of Flight that Lindy Felt.

By Wolfgang Langewiesche

This is the inside story of the most flawless, glittering, felicitous personal exploit since St. George slew the Dragon. Just simply as a story, it's a natural. You can re-read it once a year as children listen to a story over and over, and for the same reason: It is a Cinderella story.

Lindbergh, setting out to get backing for his flight, decides, "I'll need a felt hat and an overcoat, and I haven't either one. All the successful business men I know wear felt hats and overcoats—they give an impression of dignity and influence." Later, he finds himself waiting in a bank, among small business people who need loans. He looks absurd to himself—a man trying to get a bank to back such a project! The banker "slips in . . . I stand to shake hands. 'Slim, you've sold us on this proposition of yours,' he says." So the fairy story unrolls and we lap it up: that's how we want the world to be.

Twice-Trained Pilot

This Cinderellus is, of course, quite an Operator. A twice-trained pilot, first as civilian, then by the Army, he has 2,000 hours and is one of the few who can fly "blind." He is a captain in the reserve, chief pilot of an air line, and a gentleman. Also, he promotes his plan shrewdly. Or does he? There runs the ancient motif of the Innocent Heart. The Innocent Heart that casts a spell about its bearer, that gives his actions their magic effect—as when Cinderella puts her foot into the slipper, or Arthur draws the sword from the stone: the Innocent Heart which is the exact opposite of Public Relations.

So, for example, at the triumphant hour when he crosses England, he is suddenly just the wide-eyed American kid. Look! he thinks. A country ruled by a King! A little later—by this time few people on both sides of the ocean think of anything but him—he worries: how is he going to send a cable from Paris, what with French and all? He must let them know back in St. Louis that he got there.

One thing about this book is that Lindbergh writes about this angle even now with an innocent heart, and it comes out only in his precise, factual statements of what he did and thought: "I was completely unprepared for the welcome . . . I had no idea that my plane had been so accurately reported. . . . When I circled . . . it did not occur to me that any connection existed between my arrival and the cars stalled in traffic on the roads. When my wheels touched earth, I had no way of knowing that tens of thousands of men and women were breaking down fences and flooding past guards."

A Late Entry

The style of Lindbergh's enterprise—this should make his book required reading in a lot of places. It was the opposite from one now fashionable, one which is now almost a national vice, a source of weakness: the Elephantiasis of the Means; the habit of doing a thing the round-about, rich, ponderous way. When Lindbergh starts, he has many competitors. The time had suddenly become ripe for this flight. In fact, he is a late entry, and notes that every one else has to fail if he is to succeed. One by one, they do fail or get delayed; and what trips them up is bigness and elaboration, financial backings of over $100,000.

One competitor has a cabin upholstered in red leather, a crew of four, three kinds of radio. He cracks up on take-off—overloaded. Another, Byrd, has a whole airport leased. Still another, Levine, has two pilots, and waits to decide only just before take-off which one is to fly him across. There are contracts, quarrels, injunctions. There is also much emphasis on International Good Will, on high scientific purpose, on extensive test programs.

By contrast, Lindbergh simply wants to fly to Paris and if possible cop the $25,000 Orteig prize. He proceeds to do so by the Least Means. He collects $15,000 backing, including $2,000 of his own. He gets a special airplane built in eleven weeks! He tests it a total of 4 hours and 15 minutes. As for an airport, he thinks Byrd will let him use his runway when he is not using it himself. And while the Big Projects are still scheduling tests and christening ceremonies, he takes off and makes it.

How the experts and "authorities" would have mired him down. They think, ploddingly, that for such a flight a man needs all of the best and plenty of it—a navigator, a sextant, a radio, a co-pilot; Lindbergh would rather carry more fuel instead. They want him to have three engines. But the single-engine airplane is more efficient, and Lindbergh knows the main risk is not engine failure but the overloaded take-off, and the weather. A tri-motor would be even more overloaded, and no better in weather. (Most of his competitors were to eliminate themselves by take-off crashes or landing-gear trouble.) Besides, a tri-motor would have cost $90,000. We see an engine company tell him he needs no carburetor heater. This advice he takes—and it nearly kills him when his engine ices up, at night, right over the Continental Divide. We see the diplomats issue a warning that the reception of an American pilot at Paris at this time will be hostile. And we see a newspaper editor, approached for backing, indignantly turn down the biggest single news story of all time! His paper can't be associated with such an ill-conceived enterprise.

Had Judgment

The Lindbergh who emerges from this book is a man who is to the nth degree No Fool. His knowledge of flying or airplanes was not esoteric; what he knew any well-trained pilot knew. What he had was judgment. He is a regular virtuoso of judgment, and his virtuosity seems to come from conscious practice. Analyze a situation, name the possible courses of action and pick one: Lindbergh seems fascinated with this activity. It is the recurrent theme of the book. Once, when he has to go to New York on the train, he takes us through quite a discussion of how he should go, what clothes he should take, etc. Because it comes straight out of his personality, it is not trivial. You read it with earnest concern.

But his specialty is dangerous situations, tackled rationally, with risk factors correctly analyzed and judgment unclouded by fear. He makes a career out of that. When he quits college to become a pilot, his best friend points out that the life of a pilot is only a few hours in the air. It's a statistical fact at the time; but Lindbergh judges it can be done differently. When his training presently runs

---

Book review reprinted from the New York Herald-Tribune.

"The Spirit of St. Louis" by Charles A. Lindbergh.

Charles Scribner's Sons, New York.

into a financial dead end, he apprentices himself to a barnstorming pilot as a wing-walker and parachute jumper. Nothing really to it, he tells us. "The day I stood on the top wing of an airplane while it looped," he says (but you can tell he is still proud he did that. He slides it in, the way the English woman slides in . . . "the day I was presented at court." . . .). "The day I stood on the top wing of an airplane while it looped, I was tied on as safely as though I'd been strapped in my cockpit. Dangerous as that stunt seemed . . . there was really little danger involved . . . I might fall down (I did as we came out of the loop), but I could never fall off."

Noted Errors

As for parachutes, they "never failed to open if they were properly made and packed. . . . Just as with airplanes, most accidents were caused by errors which could be avoided." He notes any error of judgment. Once he has just bailed out of his mail plane. He is hanging on his parachute, and the airplane now threatens to fly into him. "My concern was out of proportion to the danger," he says stiffly, as if administering himself a reprimand.

But we like people for their foolishness, not for their superior judgment. Some of Lindbergh's readers may feel —"The guy isn't human." But he is. With all his judgment, he is captivated by a foolishness—one of the greatest, strangest, most wonderful of all the foolishnesses that have come over man at one time or another. I mean, the love of flying.

Flying is now safe, a means of transport, a tool of business, an industry, and all that; or so they say. But those were the days when flying was good in itself. It needed no excuse, no higher purpose. It was a tool of nothing much, except of the human soul and its foolish desire.

Loved Flying

Lindbergh had it bad. "In flying, I tasted a wine of the gods. . . . I decided that if I could fly for ten years before I was killed in a crash, it would be a worthwhile trade for an ordinary lifetime." "When I decided that I too must pass through the experience of a parachute jump, life rose to a higher level, to a sort of exhilarated calmness." He gives us a few scenes from the almost monastic life that flying exacted without possessions, without comforts, and far from the glittering downtown sections. A pilot would tie his airplane to a farmer's fence for the night. "The small amount of baggage he can carry makes it difficult for a barnstorming pilot to keep a neat appearance, living in daily contact with oil, dust and weather." ". . . with my bundle under one arm (I couldn't afford the weight or stiff-cornered bulk of a suitcase in my Jenny) I walked half a mile to the tracks, and boarded a street-car."

Lindbergh is no easy slinger of words. He is a precision writer. You can tell that he has labored like Hercules to Get It Said—to say exactly what he wants to say and to say it completely. He mentions his earlier book—"We." He says: "Being young and easily embarrassed, I was hesitant to dwell on my personal errors and sensations." This time, he lays it on the line for us. He does not suggest. He states, and he means every word singly as well as meaning in general what he says.

Saw Things as Airman

This precision prose sometimes turns almost into Latin: "the wing walker's ape-like stunt which appeared so death-defying to the fair ground's crowd." Sometimes, it's Greek. When he says: "the bay-broken shore line of the Sound;" or: "Manhattan Island . . . building-weighted, wharf-spined, teeming with life"—these are not, as they may seem at first, ornamental adjectives such as current prose reads better without; these adjectives are Homeric in function as they are in construction. They are precise statements, filling in for you the facts of the air-world, as Homer had to fill in for his listeners about the world of the sea, nymphs, and heroes. That it is "bay-broken" is how the pilot tells the Long Island North Shore from other shorelines hereabouts; and it is about the only thing he needs to note on piloting business about this shoreline.

This accuracy of statement carries the book right down to rock-bottom fundamentals. For example—he describes the sensations of a parachute jump—the period of free fall, before air resistance has built up to form a cushion; when, by not resisting gravity, you in effect abolish gravity. And then, with one rip of the rip-cord, from the sensation to the basic facts and constructs of the human mind: "The harness jerks me upright. Earth and sky come back to place—I'm controlled by gravity once more; I'd never realized the security of its oriented pressure. 'Mother Earth' had been only a figure of speech to me before."

Lindbergh has intershuffled the description of his great flight with flashbacks to his childhood and early flying. Here I think something needs pointing out. His reminiscences are personal and unique. But his flight was a king-size specimen of all flights. What he reports about The Flight is general: this is how men fly.

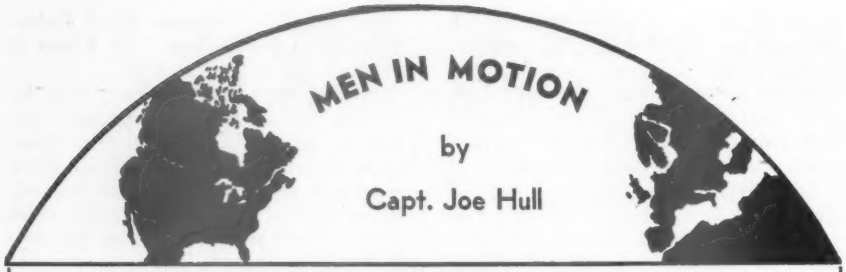
Watch, for example, the way he "thinks ahead of the airplane," the way he tries to keep emergency exits open for himself: if he finds England fogged-in, shall he go back to Ireland, or on into the night to Paris? And then, if Paris should have fog also, can he fly on to Rome? Will it be dawn at Rome when he gets there? At one time his emergency exit is to turn back and "ditch" in the harbor of St. Johns, Newfoundland, at night. At one point his engine has quit, and he picks a stand of young trees to crash-land into. At one point, he's been forced down on the ice-floes off Newfoundland.

Probes for Traps

All this is of course imaginary. It comes to nothing. The engine never misses, Europe is clear. But just the same, here Lindbergh gives us the real stuff for flying: this probing of the situation for hidden traps, for danger maybe twice removed from actuality —that is the field of the pilot's activity; the "real" flying being 99 per cent of the time, "easier than driving." And all this goes, mutatis mutandis, for any pilot, any airplane, any distance. When a boy flies a Cub from New York to Pittsburgh, his mind works that way, or should. When a Constellation takes you to Paris or Chicago, the reason it's safe is that such thinking is now expressed in airplane design, in formalized operating procedure, and concepts such as Search and Rescue, Alternate Airport, Survival Equipment, Flight with one engine "out," Point of No Return, and the Howgozit Curve.

In short, Lindbergh, here describes precisely how the pilot's mind functions in flight. Strange to say, this has never been done before—not in fiction, not in autobiography, not in aeromedicine. In Lindbergh's precision-writing, and with this magnificent flight as background, these imaginary, merely potential things come out at just the right value—not as jittering fears, but also not as merely theoretical "considerations:" as a sort of subreality of flight that must be continuously managed.

A whale of a book, this, that is at the same time a charming story and also a basic contribution to aero-psychology, and also a historic sketch of aviation in its enchanted period, and also the personal document of an extraordinary and distinguished man. Lindbergh says it took fourteen years to write. It was worth it.



EMINENT DOMAIN OR IMMINENT DEFEAT?

From the very first day that primitive man invented the wheel and brought to the world mechanized motion, the human race has craved more and more speed. The whole history of progress in the field of locomotion is an entrancing story of successive improvement, all the way from the ancient ox-cart to the sleek giants of modern air commerce which have shrunk the globe to a fraction of its former size.

Every vehicle which man produced before the era of the Wright brothers either ran upon the ground or upon the water. The early carriages depended upon beasts of burden for motive power; the early ocean going vessels upon the wind. It was only after the invention of the steam turbine and the internal combustion engine—both given to the world by the genius of Americans—that really appreciable advances in speed became possible.

But this radical increase in speed was accompanied by a new problem—the machines made noise. It was inevitable that they would because of the large forces of physics which were brought to bear in the production of the desired horsepower. The men who engineered and drove these early vehicles were quick to recognize that in order to live in close proximity to them, some muffling of the sound would be necessary.

In the case of the automobile this was relatively easy because the sacrifice of power through the baffles of the muffler was negligible. And too, automobiles are small and do not need high horsepower output for high speed. Boats have always enjoyed a unique advantage. Even though requiring large turbines to drive them, their noise can be diverted under the water, a fine diffusing and muffling agent.

But when the airplane came into the travel panorama of man, he was faced with an entirely different problem. Unlike the ponderous vessels which plied the waterways or the earthbound autos which used the early highways, aviation had a weight and minimum speed problem. For an airplane to fly it must be light; if it is to be fast it must have a lot of power. These two prerequisites have conspired together to give the latter day aviation engineer his most perplexing problem—how to harness the enormous power required to drive today's behemoths of the air and yet keep the resulting exhaust roar from reaching an objectionable level.

While it is true that mufflers have been successfully applied to the engines of light personal aircraft, it has not been possible to stifle the exhaust of the big engines on the same ratio. But, by applying the analogy of today's automobile against the huge trucks which dot our highways, we arrive at an exact parallel to aviation's problem. Some of the mighty Diesel super dreadnoughts which pound our highways at speeds up to 70 m.p.h. pour out a deafening staccato, well calculated to awake the dead. No means has been found to quiet these monstrosities, yet they are accepted as a necessary evil of everyday life. *It is significant that nobody complains about them except people living near highways.* Nor do people complain about the noise made by trains, and trains have long been the worst offenders of the auditory organs of nervous mankind.

Since aircraft engines reached and passed 1200 h.p. the aviation industry (and more particularly, the airlines) has faced a veri-

(Continued in Adjoining Column)

table barrage of criticism and abuse from a heretofore overlooked and unsuspected source—the common man on the ground. Many people living near busy air terminals have grown vehement in their indignant denunciation of the airplane and vociferous in their demands for relief from a problem which affects relatively little of our populace, but which this tiny minority assume can be easily solved. When asked by investigators of the Doolittle commission where they would move the airports if they had their way, the almost universal answer was "Away from here!"

In complete fairness to ourselves we must recognize that much of the criticism being heaped upon us is unjustified. Like a serious contagion, the noise complaint has swept the country, until in some areas it almost seems it is the fashionable thing to do to have one's name listed on a committee to fight airplanes, airports, aviation, using the shibboleth of anarchy, "Down with everything!" While we recognize and admit that we are pilots of a potential peace disturber, we have done a prodigious amount of work toward lessening the legitimate complaints by adopting several recommendations of the Doolittle committee, which incidentally, was the first intelligent approach to a problem which only became acute upon the advent of engines over 1200 h.p.

We have done everything that is humanly possible and proper—and a lot of things which are improper. We have chosen flight paths over water or unsettled areas; adopted the preferential runway system (a move long overdue); climbed rapidly after take-off (sometimes overheating our engines doing so); descended steeply and quietly over residential areas with throttles nearly closed (an undesirable practice for numerous reasons).

All these things we have done obligingly, even though we have not endorsed them all. But when the epidemic continues to grow even after the administration of all these antibiotics, then malingering in the patient must be suspected. Some of the complaints and court suits facing us have become almost ludicrous, but since the infamous Neuhauser case in New York City it does not behoove us to treat these complaints too lightly, no matter how ridiculous they may seem on the surface. We must bear in mind that we are in the peculiar position of having our cases heard by laymen, 90 per cent of whom do not recognize how difficult our job already is, without the introduction of special techniques designed

to insure that Joe Blow's ears are not violated by an excessive decibel rating.

Right now we are going through a metamorphosis of growing pains, not unlike the period which the railroads went through when private demands and public denunciation of the "Iron Horse" exceeded all limits of common sense. The rail industry weathered the storm and *so shall we*. But not without a fight. And we will do well to model our resistance after that of the railroads and the utility companies—the exercise of the *right of eminent domain*.

Ours is a vital, integral part—we think the most important—in our country's wonderful transportation system. We are essential. Let no man argue against that. So if a power company can place a steel transmission tower on a man's property over his objections and string unsightly wires over his head in the interest of supplying the country with electricity, then certainly the transportation system of this great republic has a right to fly an airliner over the same man's head.

In the early days of aviation the airports were mostly in the environs, away from the populace, a practice to which we may return. But we could not help it that people built homes near the terminals and the city gradually moved out to meet the erstwhile suburban airport. People in America are free to live where they like; they are also free to move from locations they dislike. One of the recommendations of greatest import made by the Doolittle committee was the restricting of future building in the approach paths to airports.

This is logical. It is also mandatory.

People do not demand the removal of the roundhouse because it soils the laundry on the line, or because of the distraction of switching engines. A long time ago it was discerned that land adjacent to the roundhouse was a very unattractive site for a home and now people do not choose lots near railroads or factories for homesites. They have learned to settle elsewhere. Now that the airplane is so much an accepted part of American life they must be educated to the fact that an airport makes a mighty poor neighbor.

Our fight must be based upon the premise that we have a right to be here, as much so as the railroads, the high tension lines, or the sewage disposal plant, all possessing a certain nuisance value but required in the common interest. Ours too is the right of eminent domain. This must be the basis of our fight if we are to win. If the courts decide that compensation is due to the offended parties, then the government must be prepared to pay it out of the tax dollar. This is a bridge which must be crossed and we are rapidly approaching it.

While we are on the subject, how about relocating a few outdoor pavilions such as Lewisohn Stadium, Grant Park and the like, where for the sake of the cultural tastes of a few thousand music lovers, we are asked to detour miles around, often disrupting good control zone practices? Pilots are getting fed up with demands to avoid this concert, that outdoor movie, this college campus, that bird sanctuary, ad infinitum. We are also becoming disgusted with our despised role as apologists, groveling obsequiously in the indignities which are heaped upon us. Everywhere we turn we are being encompassed more and more by stringent demands, unrealistic and unreasonable.

Where and when may we expect relief from this relentless and stupid pressure? Only after we fight back and show these antagonists of progress—most of them illegitimate complainers with mercenary motives or emotional hypochondriacs—that aviation is here to stay and they would do well to become reconciled to it. We regret that our airplanes are noisy and that our engineers have been unable to keep pace with the problem, but after all, the railroads have had over a century in which to perfect a quiet locomotive and they have not done it yet. On the same basis, this will allow our designers another 50 years to work on an aircraft engine muffler. I hope they come up with it.

By the way, what ever happened to that proposal to move Washington's Union Station out into the country after that runaway train came into the lobby?

Air Line Pilots Association Federal Credit Union Financial and Statistical Report Dec. 31, 1953

BALANCE SHEET

Assets

	Dec., 1953
Loans (697)	$ 445,879.15
Cash	126,446.30
U. S. Bonds	544,982.06
Furniture & Fixtures	2,253.64
Prepaid Expense & Misc.	268.71
Total	$1,119,829.86

Liabilities

Shares	$1,074,975.58
Reserve for Bad Loans	12,023.23
Undivided Profits	2,681.04
Profit	29,926.80
Accounts Payable	223.21
Total	$1,119,829.86

STATEMENT OF INCOME & EXPENSE

Income

	Dec., 1953
Interest on Loans	$4,391.83
Investment Income	3,687.34
Total	$8,079.17

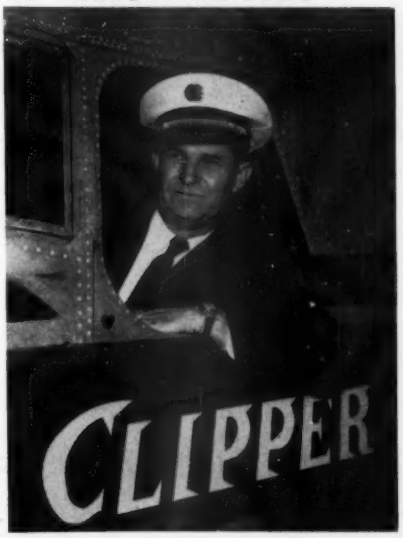
Expenses

Salaries	$ 991.40
Office Expense	178.78
Educational Exp.	0
Loan Insurance	320.36
Depreciation	62.72
Misc.	1.02
Total	$1,554.28
Net Profit	$6,524.89

Statistical Information

	Dec., 1953
Number of Members	2,482
Number of Potential Members	10,865
Loans Made Since Organization (Number)	2,733
Loans Made Since Organization (Amount)	$1,954,955.60

25 Years With PAA



Capt. Roy E. Keeler, who joined PAA in 1929, completed 25 years with the company. Second in seniority among PAA's pilots, Keeler is a charter member of ALPA, No. 166.

'53 Busiest Year

Wider use of improved airways facilities and a significant increase in all-weather flying are shown by Civil Aeronautics Administration figures of increased fix postings by its Air Route Traffic Control Centers during fiscal 1953, according to F. B. Lee, Administrator of Civil Aeronautics, Department of Commerce.

Twelve of the 31 CAA air route traffic control centers handled more than 500,000 postings during the year. Some centers increased their operations by about one fourth: Atlanta, 28 per cent, Jacksonville, 29 per cent and Los Angeles, 22 per cent.

The busiest centers were New York with 1,508,229, Washington with 871-938 and Oakland, Calif., with 858,096 postings. Other centers in the 500,000 postings bracket were Boston, 558,182; Chicago, 804,967; Cincinnati, 724,463; Cleveland, 771,453; Atlanta, 712,893; Jacksonville, 606,034; Kansas City, 623,408; Los Angeles, 602,431; and Seattle, 578, 418.

ALPA Extended Disability Coverage

QUESTIONS AND ANSWERS:

1. Q. Must a pilot actually lose his license to qualify for benefits?
   A. No. "Loss of License" disability insurance is somewhat a misnomer because you don't have to lose your license at all to ... fits. This policy off... disability protect... are disabled ... not lost y... your lic... tected

2. Q. What a...
   A. $500 pe... months ... tionally, ... chased. ... under thi... income o... you may ... selected e... cannot c... beginning...

3. Q. How d...
   A. You qu... ness o...

4. Q. How ...
   A. $12.50 ... per ye...

5. Q. Who is ...
   A. All activ... ciation ... and less... eligible ... good ... licens... medi...
   Note ...
   to qu... unable... tion, ye... of your ... to perfo... the time ... of 14 m... mentio...

6. Q. What ...
   A. The fi... receip...

7. Q. Is the ...
   A. Yes.

8. Q. Must I ...
   A. No. You... flying a... for Airl...

9. Q. What ma... of my clai...
   A. The Underwri... your personal ph... or if the issue is not clea... right to submit the case to a Un... final authority.

10. Q. Must I belong to a Mutual Aid Plan to qualify for "Loss of License" Disability Insurance?
    A. No. But it is recommended that you join a mutual aid plan so that you have a continuity of coverage.

...natural dete... ...tion covered?
...eyes, ears, or heart ... cannot meet the ... covered.

...iod be con-

...lot would ...uld begin

...he pilot ... which

...empted ... fight- ...al di-

...dom, ... and

...ager

...ttain-

...ents? ...ade, ...eath

...the

...ent of

...s?

...oldest ... Eagle ...s been ... a half ... highest ...gotiated ... London

...aranteed? ...e is guar- ... Contract ...ay be ad- ... a change. ...nward.

...be canceled? ...ontract remains

...ding or an established claim be ...ected by a change in the Master Contract?
A. No. Though no changes in the Master Contract are contemplated, if there should be a change, the new contract would only affect disabilities occuring after the change date.

We Pilots Are

A Phenomenal Group

But Even We

Can't Beat the Law of Averages

☆

Let's Face It

Each Year Some of Us Will Flunk Our Physicals Due To

ACCIDENTS, ILLNESS, or NATURAL DETERIORATION

We Can't Prevent That—But We Have Done Something About It

LOSS OF LICENSE DISABILITY INSURANCE

Only $12.50 Per Year

Provides $500 Per Month for 34 Months After a 14 Month Waiting Period. Income Protection During the 14 Month Period is Available Through ALPA Mutual Aid (12 Months).

5500 PILOTS HAVE ALREADY ENROLLED
(Must be the 5500 who read their mail)

Apply to ALPA Insurance Dept., Chicago

DON'T PROCRASTINATE—ENROLL NOW!!!